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and accountability such as moral or criminal jurisprudence would impose upon us. We are at no time masters of ourselves—of our intellectual faculties;—as little as we are masters that our kidneys should secrete or not secrete.”

Thus, all the grand thoughts which the deepest philosophical investigators have acknowledged, which has inspired whole generations, are idle dreams, phantasms of biped mechanisms which run about on the surface, then become skeletons, are finally resolved into atoms, which are again combined, become again human forms, commence again their sphere of action, not unlike the dancing of lunatics in a madhouse. They have no future, no moral basis, no faith in a moral code.

It is the province of three great sections of this assembly to occupy themselves seriously with the question regarding the nature of the soul and its connexion with the body. I would, therefore, both in the interest of men of science and laymen, ask you :—

Do you think science is sufficiently advanced to decide the question on the nature of the soul? And if so, are you inclined to adopt the opinion of those who deny an independent individual soul?

These questions are plainly and clearly formulated. May your answer, whatever it be, be equally so. Half-and-half answers are unworthy of a scientific free thinker.

### PICTET ON THE ARYAN RACE.\*

WHEN the great philological discovery of modern times was made, that all the languages of Europe, with a few exceptions, were sprung from one common tongue, most nearly represented by the ancient sacred language of India, the study of the branches sprung from this now extinct parent language became a matter of the highest moment to Ethnologists. For though it would not be sound reasoning to make language an absolute test of race, and to take away, for instance, the Cornishman from his connexion with the Welshman and plant him among the Saxons whose language he has adopted, or to say off-

\* *Les Origines Indo-Européennes, ou les Aryas Primitifs, Essai de Paléontologie Linguistique*, par Adolphe Pictet. Paris: Cherbuliez, 1859-63.

hand, whenever we find a race of people speaking an Aryan dialect as the native tongue of their ancestors and themselves, that these people must be pure and direct descendants of a race who were ages ago the only speakers of a yet undivided Aryan speech, it is nevertheless true that such evidence is capable of giving us what is generally the most important element in the history of such a race. The evidence of language does prove beyond controversy, that the early race, which we call the Aryan, did once exist, and that, pouring itself out East and West in many waves of migration, it settled itself over almost all Europe and part of Asia. Partly by destroying or expelling the previous inhabitants, partly by taking them up into itself by intermarriage, and partly by thrusting itself among them as a dominant class, it covered this great part of the Map of the World with a collection of nations more or less purely Aryan in blood, but in language, mythology, laws, and customs, so deeply impregnated with Aryan influences, that even where the physiologist may refuse to recognise a family tie of full blood-relationship, the student of human civilization may be content to let education fill up the gaps left by blood, and to accept them as a whole under the popular name of the Aryan race.

This being admitted, there arise a series of important and interesting questions, which are to be solved more or less fully, upon philological evidence. What manner of people was this Aryan race before its division into the tribes, whose children, born or adopted, are known to us as Greeks, Celts, Persians, and so forth; what were their manners and customs, their knowledge of nature and the arts? How much of what we call the civilization of these great races was derived from their common parentage, and how much is the result of independent development after their separation from the parent stock, or of communication with other races, whether Aryan or not? And in what order did these branches of the race leave their original home, and how and when did they come to be subdivided into nations who have long forgotten their connection, not only with the original race, but even with the other members of the subordinate division of it from which they sprang?

Until M. Pictet's great work was published, the answers to these questions have been miserably fragmentary. Detached portions of them had indeed been worked out with great ingenuity and labour, but no comprehensive view of the whole subject was accessible to the student of Ethnology. The object of M. Pictet's book, the first part of which appeared in 1859, and the second concluding part lately, is to classify and compare the many languages of our Aryan family with

a view of answering as far as may be the questions of this kind which present themselves. The world ought to be grateful to the author for the mass of systematically arranged material and ingenious deduction which he has now for the first time laid before the student, and of which it is our object to give a short summary.

It is, however, necessary to make a remark on M. Pictet's method of reasoning, not in a spirit of captious fault-finding, but simply to warn ethnologists that the results brought forward are not always to be received unhesitatingly as established facts. A generation or so ago, when Sanskrit had just been discovered and partially explored, and its enormous value in restoring and completing the etymology and grammatical structure of our European languages was beginning to be recognised, it is not surprising that philologists should have run sometimes into extreme opinions as to the range of its application, and have been tempted to explain the origin of any doubtful word by rushing to the list of Sanskrit verb roots, and referring it without more ado to the root that came nearest to it in sound and signification. Had the Sanskrit roots given in the lists of the Indian grammarians been always to be depended upon as really having existed and borne the meanings assigned to them, this method would still have been unsafe, but it is clear that many of them are but figments of the ancient native philologists. These Indian grammarians, finding how large a proportion of the language was capable of being referred to verb-roots or dhatus really existing as verbs, tried to bring everything, or almost everything, down to similar elements, without making due allowance for the breaking down, confusion, and alteration of meaning inseparable from the very existence of a language which had emerged to a considerable extent from the genetic stage. To the undoubted root-forms of the Sanskrit the grammarians thus added, for etymological purposes, a great number of imaginary ones, sometimes real restorations of root-words which had fallen out of common use, but more often containing a partial and distorted view of a real root, or even entirely wide of the mark. When European philologists had got over the first exhilaration of discovery and settled the general connexion of the European languages with Sanskrit on a firm basis, it became the business of a school of laborious and exact Sanskrit scholars to test everything by existing Sanskrit texts, excluding all grammatical imaginations, and rather choosing to give up the prettiest and most plausible etymologies of European languages from the Sanskrit, than to found a derivation of a Greek or German or Celtic word on a verb-root, which might have never had more than a subjective existence

in the brain of some Indian Pandit. As a rough-and-ready illustration of the way in which these roots were sometimes made, we may imagine an etymologist arguing, that as *carrier* belongs to a verb to *carry*, so *cottier* should belong to a verb to *cotty*, with a sense of cultivating, or somewhat of the kind; or catching at the verb to *horse*,—"he horsed the Epping stage,"—and erecting it to the dignity of an original verb to which the substantive *horse* should be subordinate.

M. Pictet is one of the oldest and most successful workers in the field of Aryan philology; so that it is not to be wondered at that he should accept and reason on the roots catalogued by the Indian philologists with more confidence than the new Sanskrit purists consider justifiable, and he is therefore often at issue with them. It is difficult, therefore, for the student, who consults the work before us with a view to ethnological rather than philological results, to feel always quite sure of his ground.

A quaint old theory once obtained among doctors, that wherever a particular disease was prevalent, there nature always planted a suitable remedy. If stinging-nettles abounded, there was dock close by to cure the sting; if the ague were prevalent, there in the marshy ground grew the willow-bark to cure it. In the present case the old rule holds good. The great St. Petersburg dictionary of Boehtlingk and Roth is already about half done, by means of which it is possible to know at once whether a supposed root is safe or not to be used for etymological purposes. And Professor Schleicher's *Compendium of the Comparative Grammar of the Indo-German Languages*\* now enables the ordinary student to trace with little difficulty the modifications which vowels and consonants pass through in regular course in the various languages of the Aryan race, and to be able to stop any etymology which does not conform to the usual rules; and if it cannot produce strong evidence of its parentage, to reject it altogether or mark it as mere hypothesis.

The first book of M. Pictet's work starts on slippery ground. The task of comparing names of races and ascertaining their meaning is one in which certainty is hardly to be attained at any cost of labour and skill. That the connexion between the *Ἀρίοι*, Iran, and Ireland is a real one, and that the name of Aryan which we give to the whole Indo-European family is a justifiable one, is an opinion very generally held. If the name is really a common one, what does it

\* *Compendium der Vergleichenden Grammatik der Indo-Germanischen Sprachen.* Von August Schleicher. Weimar: Böhlau. London: Williams and Norgate, 1861-2.

mean? Arya means in Sanskrit a *master* or *lord*, also *excellent*; and ârya is a term used for men of pure race, of the dominant class. Or has the name of the race to do with the root-verb *ar*, to plough, Latin *arare*, English to *ear*, as distinguishing the Aryan race, as cultivators of the soil, from the Turanian or nomade races? Or is it something else, equally plausible, and equally uncertain. Quien sabe?

Where was the first home of the Aryan race? M. Pictet thinks in Bactria, or thereabouts, and gives his reasons, mostly founded on the Zendavesta, going afterwards into the vexed questions of the order in which the different peoples, Slaves, Celts, and so forth, left the original home of the race, and the routes they followed.

The existence of the word *barbarian*, βαρβαρος, in Sanskrit literature of a tolerably early date as *barbara*, leads our author to believe that the Aryans, before the Greeks had gone off on their westward migration, applied this term, founded on an imitation of a confused and unintelligible sound, like *murmur*, to the surrounding tribes, who of course appeared to them, as foreigners do now to persons deficient in linguistic knowledge, as people "of a stammering tongue." He quotes in this connection, though without positively accepting it, an etymology of *Welsh* now usually admitted, connecting it with another onomatopœic Sanskrit root, *mlec'c'h*, to speak confusedly or in a barbarous tongue. This word resembles, though but in a loose way, the names equivalent to *Welsh*, which, with the sense of foreign or barbarous, have been given by several nations to their neighbours whose speech was unintelligible to them; as by the Slave to the Wallachian (Wlach), by the German to the Italian (Wälsch), and by ourselves to the Cymry.

After this comes a discussion of the connexion between, or rather of the unity of, the *Yavanas* of Sanskrit literature with the Ionians or *Ἰάονες* and the children of *Javan*. Then follow other nations with similar names, the Iberians of Spain and of the Caucasus, the Getæ and the Goths, the Dacians and the Danes, the Sacæ and the Saxons. But this bringing together distant races on the strength of a resemblance between their names is very dangerous work, as any dispassionate student, when he has read Jacob Grimm's argument on these subjects in his *History of the German Language*, may judge for himself. It is a relief to come out into a clearer atmosphere, and to follow M. Pictet into his discussion of the names given by the different members of the Aryan race to some of the phenomena of nature.

The Aryans seem before their division to have divided the year into three seasons—winter, spring, and summer; while, as autumn is

known in the different countries inhabited by our race by entirely different names, it follows that it was not originally recognized as a separate season. The best series of common names are those belonging to winter and the phenomena belonging to it, as *hiems*, *χεῖμα*, Slavonic *zima*, which are connected with Sanskrit *hima*, cold, snow, whence Himalaya, *the abode of snow*. The hypothetical derivation of hibernus as hi-bernus, with the sense of snow-bearing, hi being an imaginary relative of hima, and the rest of the word, from the verb bhar, to bear, is ingenious, but wanting in collateral evidence. For the verb to *snow* we have Zend *gniz*, Lithuanian *snigti*, Anglo-Saxon *sniwan*, Latin *ningere* (with the s dropped), etc.; while against Sanskrit *g'ala*, cold, we have *gelo*, *gelu*, our words *cold* and *cool*, with their earlier relatives in Gothic—*kalds*, Anglo-Saxon—*ceald*, etc., with Russian *goloti*, ice, and various others.

Spring does not go so easily and well in this comparison as winter; but M. Pictet's comparison of Sanskrit *vasanta*, with Slavonic *vesna*, Latin *ver*, Scandinavian *vâr*, Greek *ἦρ* (for *ἦρρ*), etc., seems to indicate a radical connexion among these words. Among the various etymologies of the Sanskrit *vasanta*, spring, he inclines to deduce it from the root *vas*, to clothe (whence *vestire*), as being the season in which the earth is carpeted or clothed with verdure. Such an epithet would be most appropriate, and we may suggest a similar name given by the ancient Peruvians to one of their months, *paucar-hauray*, or "meadow-carpet." The words by which summer is known are connected, as is natural, with heat and the sun.

The evidences we possess as to the original site of the Aryan race have led most inquirers to a belief in their having been settled, and having developed themselves into the state in which we get the first dim view of them, in the interior of Asia, separated by immense geographical barriers from the oceans of the north and south. The question whether they knew of the sea becomes, therefore, a very interesting one, and it may, in a certain sense, be answered in the affirmative. The word *mare* is no isolated word, for words more or less closely related to it are found through all our Aryan languages in Europe, except Greek, in Welsh *môr*, Gothic *marei*, Ags. *mere*, and so on; and these words our author connects with Sanskrit *mîra*, ocean, and etymologically with the root *mr*, to die, Latin *mori*, as being in another form the desert, lifeless, *vastum mare*, the desert itself being called *maru* in Sanskrit, and the same name being applied to mountains, as a rule wild and desolate places, in full correspondence with which may be adduced our word *moor*, old German *muor*, a marsh,

etc., etc. Without objecting to this, or contradicting M. Pictet's view that the sea our ancestors knew in their early home was the Caspian, we must protest against the argument that, as a sandy desert lies between Bactria and the Caspian, the desert and the sea would be naturally confounded in the Aryan mind. "It is, then, very probable that *maru*, and perhaps also *mîra*, designated all the western region, including the Caspian Sea, which was only its continuation."

With the same desire to make evidence, he adduces the Indian name for the west, *varunî*, as being the region of the sea, *varuna*; and argues that as the ocean should be the south, not the west, to the inhabitants of India, the name may be a recollection of the old time when they lived farther up in the interior of the continent, and had the Caspian at their west. But, to say no more, *varuna* is a general term for an expanse, which may be the sea, but which is also the firmament of heaven, *Ὀυρανός*.

At p. 118 are some very suggestive remarks on the German word *Sünd-fluth*, literally "Sin-flood," the deluge, which philologists have so often referred to as an example of the way in which the popular mind insists on thrusting a sense satisfactory to itself into words which it does not understand. The old German *sint-fluot*, of which *sünd-fluth* is a corruption, has certainly nothing about sin in it. M. Pictet explains it as corresponding to an imaginary Sanskrit compound, *sindhupluta*, of which the latter part is our word flood; while *sindhu*, sea or river, is in the latter sense a familiar name to us in its different modifications—*Sindh*, *Hindo-stan*, *Indus*, *India*. The old word *sint-fluot*, connected with the diluvial tradition which the Aryan race possesses in a different form to the Semitic race, should, if this etymology prove sound, mean simply "the sea-flood."

It is impossible in so short a space to give even a summary of all the subjects which are treated upon in the work, and we pass over the designations of stone and rock, valley and river, to the department of natural history, which begins with the names of metals, and the historical arguments to be founded on them.

A certain knowledge of the metals which were known to the different branches of our race at the time of their separation would be important, as showing the relative state of their civilization, but there are great difficulties in arriving at this. In the first place, the names of metals naturally travel from one country to another with the metals themselves; so that we are liable to take a lately-imported word for one derived by hereditary descent from the common stock; and, moreover, different metals have very frequently been confounded



under the same names. Passing over the names of compound metals, such as *brass* and *bronze*, which are merely varieties of one word, we have a name of iron, *σίδηρος*, so like the names of *silver*, Gothic *silubr*, Lithuanian *sidabras*, that a common sense, apparently that of whiteness or brilliancy, probably belongs to both, as the meaning of shining does to the Sanskrit words *rag'ata* and *rag'ant*, both from the root *rag'*, to shine, signifying one silver, and the other gold. The etymological connection between *æs*, *æris*, and *iron*, Gothic *eisarn*, which has been maintained by eminent authorities, is denied by M. Pictet. His conclusions on the subject of metals are, that the Aryans were acquainted with gold and silver, iron, copper, and bronze (which compound metal necessarily involves a knowledge of tin), though for tin itself linguistic evidence fails. To this list must be added lead, which our author considers them to have been acquainted with, though the evidence from language is of the weakest possible description. Apropos of this metal he reasons, that as it does not alloy with copper, and would be of little use for weapons, etc., by itself, it may have been considered as worthless; so that its original names may have been forgotten by the migrating tribes, until they came to know its uses, when they named it afresh. The statement that lead does not alloy with copper is not, however, technically correct. Such an alloy not only exists, but is largely used in England, under the name of "pot metal."

Passing to the consideration of the trees known to the Aryans, we find a confusion of names like those just noticed among metals, between two trees with edible fruit, the *beech*, *fagus*, and the oak with eatable acorns, in Persian *bûk*, Greek *φηγός*, which names being derived probably from the root *bhag'*, to eat, *φάγω*, are as applicable to the one tree as the other; so that the fact of this name being widely spread among the various branches of our race does not lead to a clear result. Nor does it seem possible to trace by clear evidence of language any of the wild trees of Europe, with one exception, back to the epoch before the separation, though among their names are to be found a number of very wide-lying analogies, as in the names of the poplar, willow, etc. The exception is the *birch*, Sanskrit *bhûrg'a*, Russian *bereza*, Anglo-Saxon *beorc*, etc. It is, at least, M. Pictet's opinion that this reasoning is safe; and he even suggests the very natural derivation of these various names from the various equivalents of the word *bark*, the birch being distinguished by its soft and flexible bark, which is used for various purposes. It is to be remarked, however, that *bhûrg'a* does not admit of any direct explanation in Sanskrit.

The philological information as to the fruit-trees known to the Aryan race, is of the same scanty and doubtful character as that which relates to forest trees. Even where a name is common to several branches of the race, it is only partially possible to distinguish between words belonging radically to the language in question and words received from other races, together with the products they refer to; and, moreover, the names of many of them are very indefinite, as, for instance, that of *nut*, which is common to the Latin, Germanic, and Celtic languages, with phonetic variations, which show it is not a borrowed word. Its probable etymology connects it with *knot*, but there are so many kinds of nuts that the existence of a common name, even if it ran through every language of the race, would give us no information as to the kind of nut eaten by the Aryans, and would indeed tell us little more than the existence of common words for *tree* or *fruit*.

The difficult question whether the grape-vine and wine were known to the ancient Aryans is decided very confidently in the affirmative; but whether students will be thoroughly persuaded by the train of reasoning is another matter. It is one of the most puzzling questions which arise, in attempting to trace history by the aid of words, which may be applied to many different things. The Greek μέθυ, wine, English *mead*, in connection with the Sanskrit madhu, sweet, gives no information as to the material of which the drink was made, which is just what we want to know. The etymologies of *must*, from Sanskrit mud, to be intoxicated, and of *wine*, from Sanskrit vena, delightful, a term used for the sacred Soma-liquor, whether they are right or wrong, still tell us of nothing but intoxicating liquor in a general way, but nothing about the materials of which it is made. Moreover, the way in which words for one drink travel over the world, to be applied to others of a different nature, is well known. The name of *toddy*, that is, palm-wine, has gone into the uttermost parts of the earth as a designation for spirits and water; and *arrack* has a special meaning in England, which does not belong exclusively to it, as arak is used in Persia, etc., for spirituous liquors in general. The resemblance between Sanskrit rasâ, Greek ρᾶξ, Latin racemus (whence raisin, etc.), is certainly strong; but we think that the Ethnologist, whose general rule, in arguing upon the results obtained by the Philologist, ought to be "certainty or nothing," will prefer to leave the question open, to accepting on the evidence adduced, the conclusion that the ancient Aryans had vines, and made wine of the grapes.

The names of the different kinds of grain present the same kind of indefiniteness that belongs to fermented liquors and fruits. General terms, derived, like *corn*, or *grain*, or *triticum*, from the notion of grinding, or the like ; or the words *froment*, from *frumentum*, *frui*, and *oats*, Anglo-Saxon *ata*, Sanskrit *ad*, to *eat*, tell us nothing as to particular species or varieties of grain. The meanings of such words shift with circumstances. The word *corn*, for instance, which means wheat in England, is always used for maize in the United States. Of course the cultivation of grain by the early Aryans is an acknowledged fact, proved by a mass of evidence ; but the particular kinds of grain which they cultivated are, and perhaps always will be, somewhat doubtful. Some of the evidence which M. Pictet has to offer, as to details, is as follows :—

In Sanskrit, wheat is known as *mlec'c'hâça*, *mlec'c'habhog'ana*, that is to say, food of the barbarians. Such a name seems, at first sight, to argue that the Indians did not possess this grain, and that it was not known to the ancient Aryans ; but the difficulty is removed by the consideration that the centre and south of India are too hot for wheat to flourish, while in the north, in the regions of the barbarians, the climate suits it. When the Indian branch of the Aryans descended into the warm regions they now occupy, they would naturally drop the cultivation of wheat. The name of *wheat* is no doubt from its being the *white* grain, but its name is often confused with that of barley, so that, though it is probable that the Aryan race may have cultivated both wheat and barley, the philologist alone cannot prove this, and must call in the aid of the botanist. The name of *rye* is a striking example of this indefiniteness in the names of different kinds of grain, and M. Pictet goes into an elaborate comparison of terms in support of the view that *rye*, Anglo-Saxon *ryge*, Polish *rez*, Thracian *βριζα*, is the same word as *rice*, Polish *ryz*, Greek *ῥυζα*, the whole being referred to Sanskrit *vrîhi*—a name which is applied to rice, and involves merely the idea of *growing*. The case seems satisfactorily made out that the names for these two different grains are the same, and that in all probability the Indian branch, when they came down into a rice-growing country, applied to this grain their old name for rye, but the proof has the effect to our minds of sweeping away the last vestige of certainty in tracing the cultivation of any particular grain back to a remote period and a distant country, by purely linguistic evidence. The name of the *pea*, Latin *pisum*, is found in Sanskrit as *peçi*, and its etymology involves, probably, the sense of pounding.

We pass over a number of other plants, respecting which, M.

Pictet has collected most valuable information. It is evident that the subject has not been yet brought into a state fit for the use of the ethnologist, though we are by no means prepared to offer a contradiction of our author's view that the plants, wild and cultivated, whose names go back to Aryan origin, all belong to a flora which can only have subsisted in a temperate region, and which has a generally European character.

Fortunately, the specific characters of animals are much more definitely distinguished by their names than those of plants, and the study of the names of domestic and wild creatures, even down to small insects, will suffice to give a general view of the fauna of the region inhabited by our race before its separation. Setting aside questions of varieties, the ox, horse, sheep, goat, pig, dog, were undoubtedly known by them, while there seems no direct proof of their having domesticated the ass and the cat. We can do no more than allude to M. Pictet's remarks on the names of the camel. The existence of a German name, resembling that of the *elephant* but applied up to mediæval times to the *camel*, is a curious phenomenon, which has attracted much attention. The Gothic *ulbandus*, Old German *olpenta*, Anglo-Saxon *olfand*, are all terms for the camel, and the coincidence has usually been thought an excellent example of the way in which the popular mind might confuse the names of two great beasts of distant countries. Our author takes *velibādu*, the ancient Slavonic name of the camel, to be a name explainable in Sanskrit, as *vala-bandha*, big-body, and apparently not the same word as elephant.

The domestication of poultry, as M. Pictet remarks, belongs to an advanced state of civilization. The name of the goose is one of the best examples of the name of an animal running through the whole of the Aryan languages, Sanskrit *hañsa* (the laughter), Old German *kans*, Anglo-Saxon *gos*, Scandinavian *gås*. The Greek  $\chi\eta\nu$  has lost the final sibilant, and Latin *anser* probably the initial aspirate, and there are a score of other equivalents in the languages of Europe and Asia. The names of the swan and duck are sometimes confused with that of the goose. An objection might be raised to M. Pictet's argument, that though very early records show the goose domesticated in Greece and India, and there is very strong ground for believing that the Aryans had it in a domesticated state before the separation, yet various species of geese are found wild over Europe and Asia, and the common name makes no distinction between a wild goose and a tame one. The same remark applies yet more forcibly to the duck.

M. Pictet, considering the *cock* to be descended from the Himalayan species, argues that the ancient Aryans had it domesticated in their poultry-yards, though in early times the Greeks seem not to have been acquainted with it. Its name is an imitation of its cry, Sanskrit *kukkuta*, Slavonic *kokoshu*, Anglo-Saxon *cocce*, similar names being applied to very different birds, as Lithuanian *kukuttis* to the hooppoe, French *cocotte*, a very general name applied to the parrot, and English *cockatoo*. To Skr. *kānuka*, Persian *kanak*, belong Gothic *hana*, German *hahn*, of which we have only the feminine form in *hen*, and their meaning is "the singer", Skr. *kan*, Latin *canere*, while *gallus*, Persian *gāl*, has a similar origin.

The *bee* and *honey* were well known to the Aryan race, but evidence fails to prove the existence of the art of bee-keeping.

The *mouse* is called in Sanskrit *mūsha*, that is to say, "the thief," from *mush*, to steal, and the name goes through almost the whole circle of the Aryan languages, Greek *mūs*, Latin *mus*, Slavonic *myshi*, etc. The *flea*, Latin *pulex*, Anglo-Saxon *flæh* is referred to Skr. *pulaka*, which has the general sense of parasitic insect and a derivation from the root *pul*, to swarm. The name of the fly, Sanskrit *mākshikā*, Latin *musca* (whence *mosquito*), Greek *μῦα*, German *mücke*, English *midge*, includes several insects, to which the derivation from the root *maç*, to sound, as being humming insects, is more or less applicable.

The similarity of the Hebrew name of the *lion*, *levi*, *lavia*, with *leo*, etc., makes it a difficult matter to know whether we are to refer both to one origin or not, and Coptic *laboi*, used both for bear and lion, makes the question still more perplexed. Our author considers the European name of the king of beasts, Latin *leo*, Greek *λέων*, Old German *lewo*, Slavonic *livu*, Lithuanian *lutas*, as genuine Aryan words connected with the root *lû*, to tear, or destroy. The lion existed in Thrace, etc., up to a comparatively late period, and M. Pictet makes the not improbable suggestion that the Cave-Lion was still living in Central Europe at and after the arrival of the divisions of the Aryan race. With the bear, there is of course no difficulty in considering its name to be lineally descended from that in use in Bactria, or wherever the Aryans may have lived in Central Asia. The Sanskrit *ṛksha*, Greek *ῥρκος*, *ἄρκτος*, Latin *ursus*, are clearly allied. The wolf and the fox, whose names are sometimes confounded, infested the flocks and farm-yards of the Aryans.

M. Pictet refers the name of the badger, Latin *taxus*, Italian *tasso*, German *dachs*, to the Sanskrit root *taksh* as being "the cutter," and

accounts for the mention of skins of *tachash*, translated "badgers' skins" in the Book of Numbers, as having come by commerce with Persia, and attaches more certainty to this conclusion than seems at all prudent.

The *otter* is an animal whose name, Greek *έννδρís*, Lithuanian *udrà*, is clearly significant of its living in the water, and allied to Sanskrit *udra* and to the root *ud*, to *wet*; but this word, as its sense allows, is used also for the crab; while in Zend the meaning of *udra* is in like manner doubtful between the otter and the beaver, to both of which it is equally applicable. The name of the beaver, found almost throughout Europe, as in Latin *fiber*, Anglo-Saxon, *beofer*, Lithuanian *bebrus*, etc., appears to be an Aryan word transferred from other animals, or at least belonging indefinitely to several, as in Sanskrit *babhru*, rat and ichneumon, Persian *bíbar*, mouse. Its meaning is apparently "the *brown* animal." The *hare*, German *hase*, Sanskrit *çaca*, is "the leaper;" while Greek *λαγώς* is compared with the Sanskrit root *lagh*, transilire, and *laghu*, light, swift. The rabbit, or *coney*, Latin *cuniculus*, belongs to the verb *khan*, to dig, whence *canal*, etc., names derived from which are also applied in Sanskrit to the rat, and in Russian, etc., to the marten, from their burrowing habits.

The name of the crow, Sanskrit *kârava*, is of great philological interest. In Sanskrit a number of words are formed by prefixing the interrogative particles *ka*, *kat*, *ku*, etc., to nouns with a sense of depreciation. The name of the crow is thus derived from *ka-ârava*—"what a voice!" This formation is common enough, as in such instances as *kad-adhvan*, a bad street, literally "what a street!" and *ku-vanga*, lead, literally "what tin!"

But the absence of such a mode of formation in the European languages gives a high interest to such words as are to be found in them, which seem to have been formed in this way while the language was still in a state which admitted of such a formation, which is found clearly defined in Sanskrit. Professor Pott has made an elaborate examination of such words in the new edition of his *Etymologische Forschungen*. To the Sanskrit name of the crow, *kârava*, is compared Latin *corvus*, whence, by transmission, English *crow*; while Anglo-Saxon *hreafn*, *raefen*, English *raven*, are allied by real relationship with some form similar to *kârava*, but with an *n* at the end of it. With reference to the raven, M. Pictet states the curious but speculative question, whether the extraordinary similarity between the Semitic names for the raven, Hebrew 'oreb, Arabic ghurab, which have no known etymology, and those of the Aryan language, make it

probable that the Hebrew name of the raven, which is mentioned early in the book of Genesis, is of Aryan origin.

With reference to the inquiry whether the ancient Aryans were acquainted with the ocean, or with some inland sea only, M. Pictet's remarks on the names of various shells should be noticed. The connection between Sanskrit *çankha*, Greek *κόγχη*, Latin *concha*, has often been remarked, and would seem, at first sight, to prove that the fact of the ancient Aryans having a name for the great sea-conchs, used for trumpets and vases, must show that they were familiar with marine products, and, therefore, with the sea, before their separation. M. Pictet gives a very plausible etymology of *çankha*, by comparing it with *çâkhâ*, a horn, which being used for a drinking-vessel and a trumpet, would be extremely likely to pass to the great shells which were used for precisely the same two purposes. But his reasoning, that the common name proves anything whatever about the proximity to the sea of the people who used it, breaks down utterly on other grounds. The argument "for it is not to be believed that shells should have been the object of distant commerce at so remote a period" is quite worthless, seeing that it is a known fact that hardly any objects of nature or art do travel so far even among barbarous tribes as the large and beautiful ocean-shells. The fact of the great shells of the Gulf of Mexico having been carried at remote periods from tribe to tribe of North America, far up into Canada, is a sufficient answer to the argument that the possession of sea-shells by the Aryans proves anything as to their geographical position. Our author's remarks on the name of the *oyster*, which, though not in Sanskrit, is found through the European branches of the race, tend to prove that the western section of the race became acquainted with it at a very early period, and in this instance it is reasonable to suppose that they must have lived somewhere near the sea-coast where it is found, as at so early a period the edible oyster would not be carried far.

In concluding his remarks on the animal kingdom, M. Pictet calls attention to the very suggestive consideration, that the Aryan race seem to have gone, so to speak, to first principles, in naming the animals with which they were acquainted, by some epithet characteristic of the qualities distinguishing them, not applying to them old words inherited from some other stage of development of language, with their forms mutilated, and their sense lost. The idea of the fathers of our race having begun at the beginning, not only in developing their civilization, but even in naming the plants and animals around them, from general terms expressing their quality, gives us a sense

of the independence and originality of the Aryan mind, that may well excite our astonishment, and give us a higher appreciation of the part which our race have played in the history of the world.

We propose to give in a future number, a sketch, necessarily very slight and incomplete, of M. Pictet's second volume, which is devoted to the examination of the Civilization of the Aryan race in their early home, the circumstances of their pastoral and agricultural life, their arts of war and peace, their social condition, laws, science, and religion.

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## ETHNOLOGICAL INQUIRIES AND OBSERVATIONS.

By R. KNOX, M.D.

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### *Inquiry into the Influence of Climate and of Hybridity over Man.*

THE natural antagonism of race to race; the antagonism of man to nature's works; the laws negating hybridism in man; the tracing certain races of men to continents or centres of creation now submerged; and the influence of climate in destroying aggressive races—these were amongst the earliest of my ethnological inquiries, undertaken at a time when the superficial work of Prichard had entire possession of the field of ethnology.

The theories which all but universally prevailed before the publication of my lectures on the Races of Man, were, that all men being of one species, the varieties they present are more apparent than real; that it is education, government, climate, and civilization which give rise to these varieties, men being everywhere the same *au fond*: in a word, the hypothesis of Hippocrates continued to prevail until the date I refer to; and, moreover, in respect of the acclimatization of man in various regions of the world, it was boldly asserted that with time and care all varieties of men might be dislocated from the land of their origin and transferred to other regions and other climates, to which they would become habituated, viable, progressive, and as it were aboriginal. Now, although such theories found no support in history, they maintain their ground to this day; and for this simple reason, independent of others, they tallied well with certain theological hypotheses, in the support of which interests unexampled in the history of man for magnitude and importance had been long em-